WHAT IS CLAIMED IS:

1. In a region which includes at least one generally straight in-ground cable line extending across said region, from which cable line a locating signal is transmitted, a method for establishing the location of the cable line, said method comprising the steps of:

a) measuring a local flux intensity of the locating signal at a first above ground point within said region using a portable locator in a particular orientation; and

b) using the local flux intensity to establish a cable line angular orientation which limits the possible directions to the cable line relative to the particular orientation of the portable locator at the above ground point.

2. The method of Claim 1 further comprising the step of:

c) establishing a vertical flux slope orientation at the above ground point;

d) selecting an actual direction of the cable line from the possible directions based on the vertical flux orientation; and

e) displaying the cable line in a position relative to the portable locator with the portable locator in said particular orientation.

3. The method of Claim 2 further comprising the step of displaying an updated positional relationship on the portable locator after moving the portable locator into a new particular orientation to continuously indicate, at least to within an approximation, the actual position of the cable line, irrespective of a predetermined degree of variation in orientation of the portable locator.

4. The method of Claim 2 further comprising the step of:

f) estimating a distance between the cable line and the portable locator.

5. The method of Claim 3 wherein the portable locator includes an axis of symmetry and wherein said distance is estimated based on the expression

$$\frac{b_z}{\sqrt{b_x^2 + b_y^2 + b_z^2}}$$

where b_x is a horizontal flux component generally along the axis of symmetry of the portable locator, b_y is a horizontal flux component orthogonal to b_x and b_z is a vertically oriented flux component.

6. The method of Claim 1 further comprising the steps of:

c) selecting an actual direction of the cable line from the possible directions based on certain characteristics of the locating signal;

d) moving in the actual direction of the cable line;

e) measuring an additional flux intensity of the locating signal at an additional above ground point in said relative direction toward the cable line with the portable locator in a new orientation;

f) using the additional flux intensity to establish an additional cable line angular orientation which establishes new possible directions to the cable line relative to the new particular orientation of the portable locator at the additional

above ground point;

g) selecting a new actual direction of the cable line from the new possible directions based on the certain characteristics of the locating signal; and

h) moving in the new actual direction of the cable line.

7. The method of Claim 6 further comprising the steps of:

i) repeating steps (e) through (h) until the certain characteristics of the locating signal indicate that the portable locator has passed over the cable line; and

j) indicating that portable locator has passed above the cable line.

8. The method of Claim 6 wherein the certain characteristics include the vertical flux slope orientation of the locating signal.

9. The method of Claim 8 wherein the vertical flux slope orientation is determined using the expression

$$-sign\left(\frac{b_x}{b_z}\right)\sqrt{\left(\frac{b_x}{b_z}\right)^2+\left(\frac{b_y}{b_z}\right)^2}$$

where b_x is one horizontal component of flux intensity at the above ground point, b_y is another horizontal component of flux intensity which is orthogonal to b_x, and b_z is the established vertical flux intensity component.

10. The method of Claim 1 wherein the portable locator includes an axis of symmetry and including the step of displaying the cable line orientation based on the expression

$$\tan\gamma = b_y \ / b_x$$

where γ is the cable line angular orientation, b_x is a horizontally oriented flux component at least vertically aligned with the axis of symmetry of the portable locator and b_y is horizontally oriented and orthogonal to b_x.

11. In a region which includes at least one generally straight electrically conductive cable line extending across said region, from which cable line a locating signal is transmitted, a portable locator for establishing the location of the cable line, said portable locator comprising:

a) a first arrangement for measuring a local flux intensity of the locating signal at a first above ground point within said region with the portable locator in a particular orientation at the first above ground point;

b) a second arrangement for using the local flux intensity to establish a cable line angular orientation which limits the possible directions to the cable line relative to the particular orientation of the portable locator at the above ground point; and

c) a third arrangement for using the measured local flux intensity to establish an actual direction of the cable line that is selected from the possible directions based on certain characteristics of the locating signal.

12. The portable locator of Claim 11 wherein said third arrangement is further configured for estimating a distance between the cable line and the portable locator and for displaying the position of the cable line relative to the portable locator.

13. The portable locator of Claim 12 configured for displaying an updated positional relationship after moving the portable locator into a new particular orientation to continuously indicate, at least to within an approximation, the position of the cable line, irrespective of a predetermined degree of variation in orientation of the portable locator.

14. The portable locator of Claim 12 including an axis of symmetry and configured for estimating said distance based on the expression

$$\frac{b_z}{\sqrt{b_x^2 + b_y^2 + b_z^2}}$$

where b_x is a horizontal flux component generally along the axis of symmetry of the portable locator, b_y is a horizontal flux component orthogonal to b_x and b_z is a vertically oriented flux component.

15. The portable locator of Claim 11 further comprising:

d) a display arrangement for displaying the position of the cable line relative to the first above ground point.

16. The portable locator of Claim 11 configured for measuring an additional local flux intensity of the locating signal at an additional above ground point and for using the additional measured local flux intensity to establish a new cable line angular orientation which establishes new possible directions to the cable line relative to the particular orientation of the portable locator at the additional above ground point and, thereafter, using the additional local flux intensity to display a new actual direction of the cable line relative to said additional above ground point based on the certain characteristics of the locating signal.

17. The portable locator of Claim 15 wherein the certain characteristics of the locating signal include a vertical flux slope orientation which changes signs upon crossing above the cable line and said third arrangement is configured for detecting a change in sign of the vertical flux slope orientation and indicating that the portable locator has passed above the cable line.

18. The portable locator of Claim 17 wherein the portable locator determines the vertical flux slope orientation using the expression

$$-sign\left(\frac{b_x}{b_z}\right)\sqrt{\left(\frac{b_x}{b_z}\right)^2 + \left(\frac{b_y}{b_z}\right)^2}$$

where b_x is one horizontal component of flux intensity at the above ground point, b_y is another horizontal component of flux intensity which is orthogonal to b_x, and b_z is the established vertical flux intensity component.

19. The method of Claim 11 wherein the portable locator includes an axis of symmetry and including the step of displaying the cable line orientation based on the expression

$$\tan\gamma = b_y / b_x$$

where γ is the cable line angular orientation, b_x is a horizontally oriented flux component at least vertically aligned with the axis of symmetry of the portable locator and b_y is horizontally oriented and orthogonal to b_x.